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2014 AMERICAN COMMUNITY SURVEY EVALUATION REPORT MEMORANDUM
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MEMORANDUM FOR ACS Research and Evaluation Advisory Group

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Subject: Evaluation of the Revised Veteran Status Question in the 2013
American Community Survey

Attached is the final American Community Survey (ACS) Research and Evaluation report, "Evaluation of the Revised Veteran Status Question in the 2013 American Community Survey". We conducted this evaluation to examine the effect of the changes to the veteran status question on the 2013 ACS data. If you have any questions about this report, please contact David Raglin at 301-763-4226 or Kelly Holder at 301-763-3462.

Attachment

cc:
ACS Research and Evaluation Workgroup
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SEPTEMBER 10, 2014

Evaluation of the Revised Veteran Status Question in the 2013 American Community Survey

FINAL REPORT

EXECUTIVE SUMMARY

The Census Bureau is reporting 1.7 million fewer veterans in 2013 than in 2012. Historically, the number of veterans drops each year due to the deaths of older veterans, but the decrease from 2012 to 2013 was larger than expected. This paper presents the results of the research into this issue. There were three research questions:

Research Question 1: *How does the 2013 distribution of the veteran status question compare to previous years?*

- The number of veterans dropped about 1.2 million over the four year period of 2008 to 2012. From 2012 to 2013, there was a drop of 1.7 million veterans.
- There was a large increase in the number of people who reported serving on active duty for training only: 2.5 million in 2012 to 3.4 million in 2013.
- Examination of the period of service for veterans and the age of reservists suggests that there was a large shift from veterans in 2012 to active duty for training only in 2013.

Research Question 2: *Do the changes in the distributions of the veteran status question differ by mode?*

- Yes. For those interviewed by personal visit, there was an increase in the percentage of individuals who were “on active duty for training only” (0.4 percent in 2012 compared with 1.1 percent in 2013), and a corresponding drop in the percentage of veterans (6.4 percent and 5.6 percent respectively).
- For those in the self-response modes, there was a decrease in the percentage of veterans from 2012 to 2013. Reasons for the change include: the introduction of the Internet mode in 2013, which tended to attract younger people; the improvement to the self-response question; and an increase in allocations due to a cutback in the number of self-response cases being followed up to complete missing items.

Research Question 3: *What is the effect of the question wording changes on the interviewer-collected data for the “Active Duty for Training in the Reserves/National Guard only” category?*

- There was an increase in the number of individuals who identify themselves as active duty for training only in the interviewer modes.
- A large percentage of individuals that classified themselves as serving on active duty for training only used the new path in the automated instrument, indicating that people inconsistently answered the question in the past. Thus, the changes help us to more accurately report veteran status.

The Census Bureau believes that the larger than usual decrease is due to improvements in the veteran status question implemented in 2013. The Census Bureau says that veteran status data from 2012 to 2013 can be compared, but recommends that it be compared with caution, taking into account the findings in this evaluation report.

INTRODUCTION

In 2013, the American Community Survey (ACS) introduced a revised question to collect veteran status based on evidence from the 2010 ACS Content Test. During the initial evaluation of the 2013 ACS data collected using the revised veteran status question, statisticians at the U.S. Census Bureau saw a decrease in the number of veterans from 2012 to 2013. Historically, the number of veterans drops each year due to the deaths of older veterans, however the decrease from 2012 to 2013 was larger than expected.

A task force was formed to investigate the reasons for the unexpectedly large decrease. We reviewed the trend in the distributions of the veteran status question, the distributions by mode, and the effect of changes to the question wording in the interviewer-administered modes. This paper presents the results of the investigation.

BACKGROUND

In late 2010, the Census Bureau conducted a field test of new and revised content in the 2010 ACS Content Test. The results of that test determined the content of the 2013 ACS questionnaire. One of the topics included in the Content Test was veteran status. The Department of Veterans Affairs (VA) proposed several revisions to the veteran status question to simplify the wording and generate a more reliable and accurate estimate of veterans.¹

The ACS uses several data collection modes. Prior to 2013, the only option for addresses to respond in the first month was a paper questionnaire. Starting in 2013, addresses receive the Internet option first and then nonresponding addresses receive a paper questionnaire. In the second month, we call nonresponding addresses in our computer-assisted telephone interviewing (CATI) operation. In the third month, we visit a sample of nonresponding addresses in our computer-assisted personal interviewing (CAPI) operation (Census Bureau, 2014).

The veteran status question is different on the self-response questionnaire (mail and Internet) compared with the interviewer-administered modes (CATI and CAPI). On the self-response form, the 2010 test version of the veteran status question was revised in several ways based on recommendations from previous analysis of the (Figures 1a and 1b). The revised question eliminated the lead-in “yes” and “no” for each response option in the self-response version because they added confusion for the respondents.

Analysis of data collected from the version of the question used prior to 2013 (Figure 1a) indicated that respondents who had served on active duty in the past (i.e., veterans) regularly answered the first “yes” category (“Yes, now on active duty”) in error. This was evident because they also answered a period other than the most recent period of service (September 2001 or later) in the subsequent question in the series.

¹ There was one change that was not related to improving the question. The VA no longer needed the 12-month distinction in the veteran classifications, resulting in the collapsing of the “on active duty in the last 12 months, but not now” and the “on active duty in the past, but not during the past 12 months” categories into one category, “on active duty in the past, but not now”.

Also, the response category for Reservists/National Guard who were on active duty for training only incorporated information from the italicized instructions in the original version of the question, eliminating the need for the instruction to the question itself. VA only considers Reservists/National Guard to be veterans if they served on active duty for reasons other than training, such as activation for the Gulf War, Iraq, or Afghanistan. The decision to remove the instructions was made after cognitive testing interviews were conducted. During cognitive testing, several respondents indicated that they did not read the instructions at all, while additional respondents who did read them indicated that they did not fully understand them. A large percentage of those interviewed (13 of 47) said that training in the Reserves or National Guard was active duty, when the instruction for the question indicated the opposite (RTI, 2009). The final report from cognitive testing recommended removing the italicized instruction (RTI, 2009).

Finally, the order of the responses was changed to allow the largest population, nonveterans, to quickly move through the series. The category for Reservists who only served on active duty for training was also moved up in the order to avoid having people answer “active duty” without reading the remaining categories. Suggestions for reordering the response categories were raised in a prior content test (Clark and Raglin, 2006) as well as during cognitive testing interviews in 2010 (RTI, 2009).

The final self-administered (paper) version of the veteran status question tested in the 2010 content test, and subsequently added to ACS production in 2013, is shown in Figure 1b. The same wording was used in the Internet version of the questionnaire, also introduced in 2013.

Figures 1a and 1b. Self-Response Questionnaire Images of the Veteran Status Question

1a. Prior to 2013 version:

26 Has this person ever served on active duty in the U.S. Armed Forces, military Reserves, or National Guard? *Active duty does not include training for the Reserves or National Guard, but DOES include activation, for example, for the Persian Gulf War.*

- ☐ Yes, now on active duty
- ☐ Yes, on active duty during the last 12 months, but not now
- ☐ Yes, on active duty in the past, but not during the last 12 months
- ☐ No, training for Reserves or National Guard only → SKIP to question 28a
- ☐ No, never served in the military → SKIP to question 29a

1b. 2013 and later version:

26 Has this person ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard? Mark (X) ONE box.

- ☐ Never served in the military → SKIP to question 29a
- ☐ Only on active duty for training in the Reserves or National Guard → SKIP to question 28a
- ☐ Now on active duty
- ☐ On active duty in the past, but not now

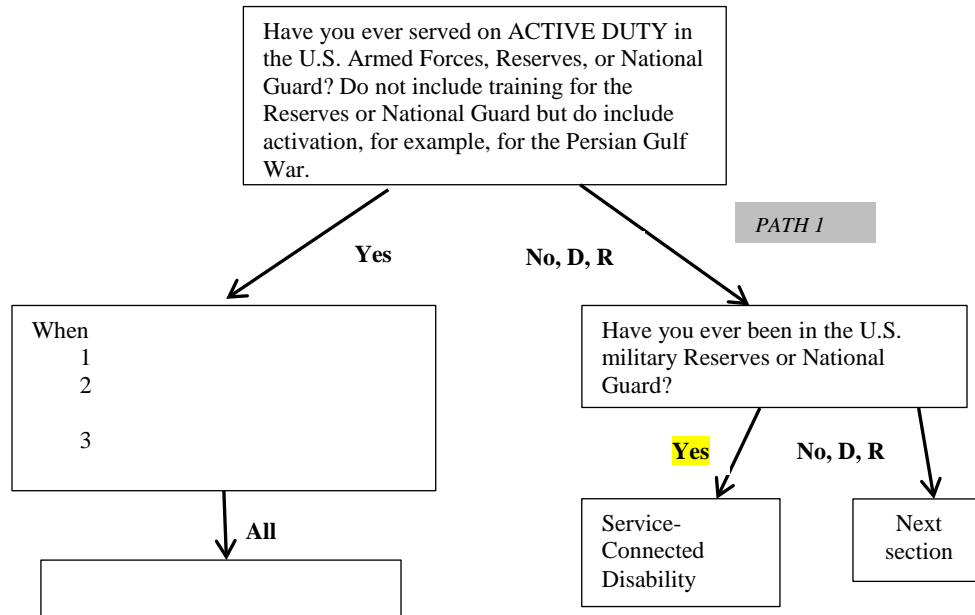
Changes were also made to the series of questions asked in the automated instruments for CATI and CAPI. Figures 2a and 2b show the wording and skip patterns for these questions.

The biggest change in the CATI/CAPI question focused on the “Active Duty for Training in the Reserves/National Guard only” category. Prior to 2013, we asked respondents: “Have you ever served on ACTIVE DUTY in the U.S. Armed Forces, Reserves, or National Guard? Do not include training for the Reserves or National Guard but do include activation, for example, for the Persian Gulf War.” (Figure 2a).

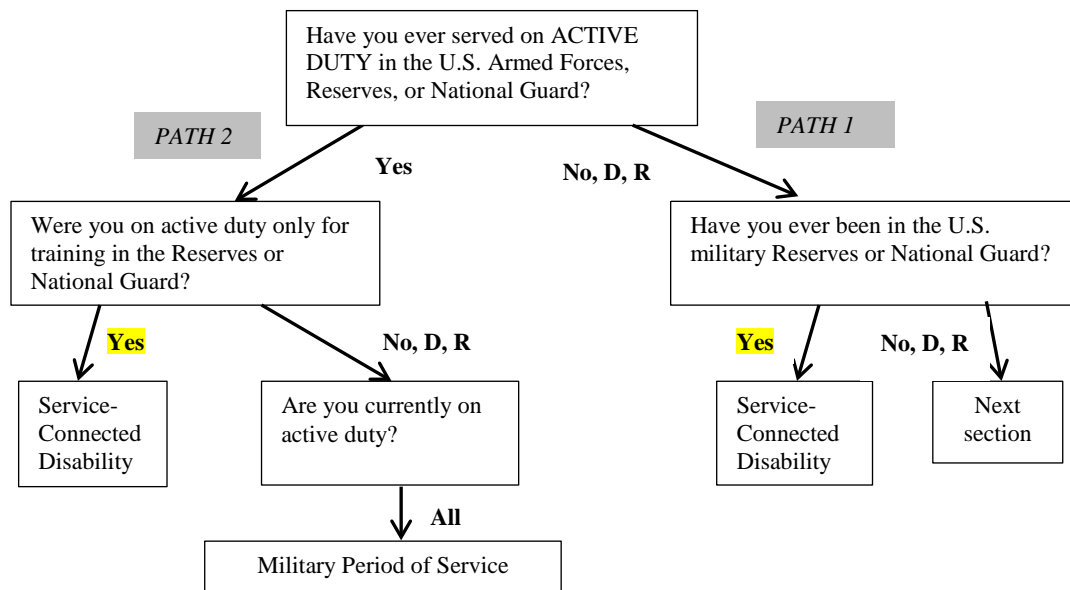
In 2013 we made the clarifying instruction on training for the Reserves and National Guard a separate question (Figure 2b). That provided two different paths (Path 1 and Path 2 in Figure 2b) through which a person could be classified as serving on active duty only for training in the Reserves or National Guard—by saying “yes” to either the “Training” question or the “Reserves” question, as highlighted below.

Figure 2a and 2b. CATI/CAPI Questions and Skip Patterns for Veteran Status

2a. Prior to 2013 version:



2b. 2013 and later version:



The evaluation of the 2010 ACS Content Test data concluded that the test question performed better than the control based on the pre-determined evaluation criteria. Overall, the estimate of veterans² was comparable using the test version, there were fewer inconsistencies between the veteran status and period of service questions, there was no difference in item missing data rates, and the test version improved the reliability of the data for the “never served” and “active duty for training only” categories. VA recommended adopting the test version based on design, word count, and statistical performance (Hotchkiss, 2012).

The 2010 ACS Content Test also examined the response distributions by mode of interview. Mail response showed a statistically significant decrease in the percent indicating “on active duty now” in the test version. This finding was expected because prior analysis of unedited ACS data suggested that veterans tended to mark the first “Yes” category in the original question along with a period of service other than “September 2001 or later.” CAPI response in the 2010 ACS Content Test showed a statically significant increase in respondents indicating “active duty for training only” on the test version compared to the control. The differences in CATI response distributions were not statistically significant.

This evaluation compares data collected with the original question from 2008 through 2012 to data collected in 2013 using the revised question to determine the impact of these changes on the quality of the data.

METHODOLOGY

This report specifically answers the following questions:

1. How does the 2013 distribution of the veteran status question compare to previous years?
2. Do the changes in the distributions of the veteran status question differ by mode?
3. What is the effect of the question wording changes on the CATI/CAPI data for the “Active Duty for Training in the Reserves/National Guard only” category?

We tabulated the values of veteran status using the 1-year ACS files from 2008 to 2013. The values of veteran status changed in 2013, so we tabulated the data as shown below.

2008 to 2012 Values of Veteran Status		2013 Values of Veteran Status	
Value	Description	Value	Description
1	On Active Duty now	1	On Active Duty now
2	On Active Duty in past 12 months	2	On Active Duty in the past
3	On Active Duty more than 12 months ago		
4	Training in the Reserves/National Guard only	3	Training in the Reserves/National Guard only
5	Never served	4	Never served

² In 2012, people were classified as veterans if they answered either the “on active duty in the past 12 months, but not now” or the “on active duty in the past, but not in the last 12 months. In 2013, veterans were those who answered “on active duty in the past, but not now”.

We weighted the data and created measures of sampling error using standard ACS methodology (see Census Bureau, 2014, chapter 11). We included all cases in both the United States and Puerto Rico, and both people in housing units and people in group quarters.

We also looked at the data by data collection mode. As Figures 1 and 2 show, the veteran status questions are very different in the self-response modes of mail and Internet compared with the interviewer-administered modes of CATI and CAPI.

LIMITATIONS

The major limitation for this research is the many changes made to the ACS from 2012 and 2013 make it difficult to isolate methodological reasons for differences in the data.

The biggest change was the addition of the Internet mode in 2013. However, we have to be very careful when comparing data between modes between 2012 and 2013. Internet is now the first response option provided to respondents. It was already difficult to evaluate mode effects in the ACS since respondents in a sense choose their mode of response (even if they are not aware they are doing that) by whether or not they respond to each successive mode.

It is not necessarily true that the universe that responded using self-response (mail) in 2012 would necessarily respond using self-response (either Internet or mail) in 2013. For example, a household of younger people may never respond to a mail questionnaire but would respond on the Internet, so they will not have their data collected in CATI or CAPI. Since the composition of those who respond using the self-response modes could have changed in 2013, the remaining respondents we follow-up with in CATI and CAPI might also be different between 2012 and 2013.

Two cost-savings initiatives also went into full effect at this time which could affect the data collected. The amount of data collected in the CATI operation dropped significantly because of a cost-savings operational change in April 2013 that limited the number of call attempts made to a sample address.

In addition, the self-response data was less complete because the operation that follows up with self-response households to fill in missing data, called Failed Edit Followup (FEFU), was sharply cut back for cost-savings purposes. The cutback took place in October, 2012, but the effect was magnified in 2013 because the design of the Internet instrument meant that very few Internet returns went to the FEFU operation. For more information on the effect of the FEFU cutback on the ACS data, see Clark, 2014.

RESULTS

Research Question 1: *How does the 2013 distribution of the veteran status question compare to previous years?*

Table 1 looks at veteran status from 2008 to 2013.

Table 1: Veteran Status, 2008 to 2013, United States/Puerto Rico, 18 Years and Older

Total Year	Active Duty (AD) Now	AD in the Past (Veterans)	AD for Training Only	Never Served
2008	1,185,583 (20,457)	22,542,643 (64,931)	2,636,899 (29,878)	206,743,611 (75,879)
2009	1,223,886 (22,737)	21,973,471 (65,769)	2,590,951 (25,759)	209,724,705 (70,283)
2010	1,037,000 (16,262)	21,911,170 (63,555)	2,531,255 (25,384)	212,529,388 (61,643)
2011	1,001,581 (16,628)	21,566,891 (69,184)	2,511,265 (30,094)	215,431,676 (72,846)
2012	1,009,980 (14,420)	21,337,439 (58,185)	2,547,548 (23,877)	218,126,386 (61,089)
2013	963,820* (16,121)	19,677,519* (59,518)	3,424,360* (29,837)	221,277,540* (52,540)

Percentage Year	Active Duty(AD) Now	AD in the Past (Veterans)	AD for Training Only	Never Served
2008	0.5 (0.1)	9.7 (0.1)	1.1 (0.1)	88.7 (0.1)
2009	0.5 (0.1)	9.3 (0.1)	1.1 (0.1)	89.1 (0.1)
2010	0.4 (0.1)	9.2 (0.1)	1.1 (0.1)	89.3 (0.1)
2011	0.4 (0.1)	9.0 (0.1)	1.0 (0.1)	89.6 (0.1)
2012	0.4 (0.1)	8.8 (0.1)	1.0 (0.1)	89.8 (0.1)
2013	0.4* (0.1)	8.0* (0.1)	1.4* (0.1)	90.2* (0.1)

* Difference between 2012 and 2013 is statistically significantly different at the 90 percent level.

Margins of error, in parenthesis, are rounded, however, all statistical testing was calculated using the unrounded values.

Source 2008 to 2013 American Community Survey. January 2008 to December 2013.

Table 1 shows that the estimate of people who were on active duty in the past (i.e., veterans) had dropped by about 1.2 million from 2008 to 2012. A decrease in the veteran population each year is expected due to deaths in the large older cohorts of Vietnam, Korean, and World War II veterans. Between 2012 and 2013, however, the veteran population dropped by 1.7 million. The estimated percentage of people 18 years of age and older who were veterans dropped from 8.8 percent in 2012 to 8.0 percent in 2013.

Another category that had a large change was individuals who served on active duty for training only in the Reserves or the National Guard. The ACS does not publish data for that group separately. The ACS asks about them to help in classifying veteran status; they are considered “nonveterans” in ACS tabulations. Table 1 shows an increase of about 900,000 from 2012 to 2013; the 34 percent increase from 2012 to 2013 is the largest percentage change in any of the questionnaire categories.

The direction and magnitude of these changes appear to indicate a shift from veterans to what we will call “Reservists” for the purpose of this discussion. As previously stated, members of the Reserves or National Guard who were federally activated for service (i.e., placed on active duty

status) are considered veterans by VA. If a person only served on active duty for training only, he or she is not considered a veteran by the VA.

We saw a similar trend in the 2010 ACS Content Test. While the differences in the response distributions between the control version of the question (used in 2012)³ and the test version (used in 2013) were not statistically significant, the directions of the changes in the distributions are similar to those between the 2012 and 2013 data. The response distribution for the test question shows a pattern similar to the 2013 production data, with a shift in the distribution appearing between “active duty in the past” and “active duty for training only.” Note, however, that a direct comparison of the rates between the Content Test and production data is not possible because of limitations inherent in the differences between a content test and production, including the test design and sample sizes.

In order to determine whether or not this shift between veterans and Reservists was really happening and could logically be explained by the question changes, we further analyzed the 2013 data by period of military service, age, and sex. We analyzed the trends in these characteristics from 2008 to 2013 to determine how different 2013 really was.

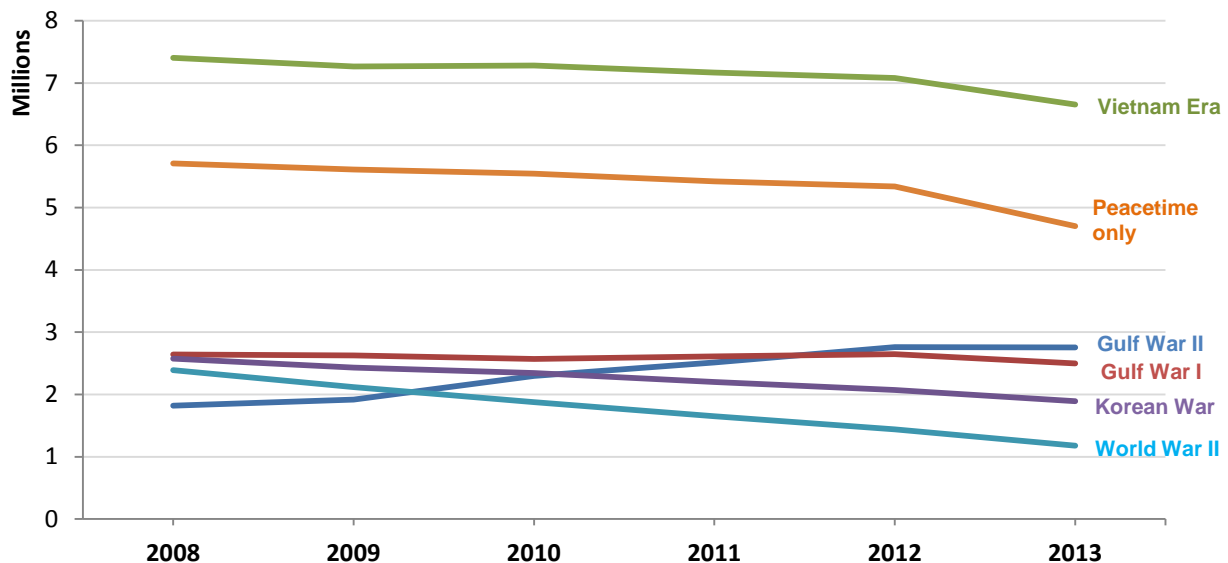
We expect the total veteran population to decrease each year due to deaths in the very large Vietnam, Korean, and World War II cohorts. The largest decreases should be Korean War and World War II veterans, who have median ages over 80. Gulf War I (August 1990 to August 2001) and Gulf War II (September 2001 and later) veterans should continue to increase each year until the Gulf War era has officially ended. In addition, we expect the distribution of period of military service for veterans to change in those periods where Reservists were least likely to be federally activated. This indicates that these “active duty for training only” Reservists in the past were misclassifying themselves as “active duty in the past” veterans in the old question. We hypothesized that the periods where we would expect a larger than normal shift would be the Vietnam era and peacetime only periods.⁴ Very few Reservists would have been federally activated during these times. In more recent periods, such as the 1990 Gulf War and the Post 9/11 period, Reservists have regularly been used in active duty capacity.

Figure 3 shows the period of military service for veterans from 2008 to 2013. As we expected, the figure indicates a larger decrease in the total Vietnam era and peacetime only groups than for other periods between 2012 and 2013. A veteran who served during wartime is classified in the period of the most recent conflict he or she served during. If a veteran only served during peacetime periods between wars, he or she is classified in the “peacetime only” category.

³ The control version of the veteran status question was a modification of the production question at that time, with the collapsing of the two active duty in the past categories into one. (For details, see Footnote 1.) This modified control version was used in production prior to 2003.

⁴ See Appendix Figure 1 for a questionnaire image of the period of military service question for date ranges.

Figure 3: Veterans' Period of Military Service (in millions)



Source 2008 to 2013 American Community Survey. January 2008 to December 2013.

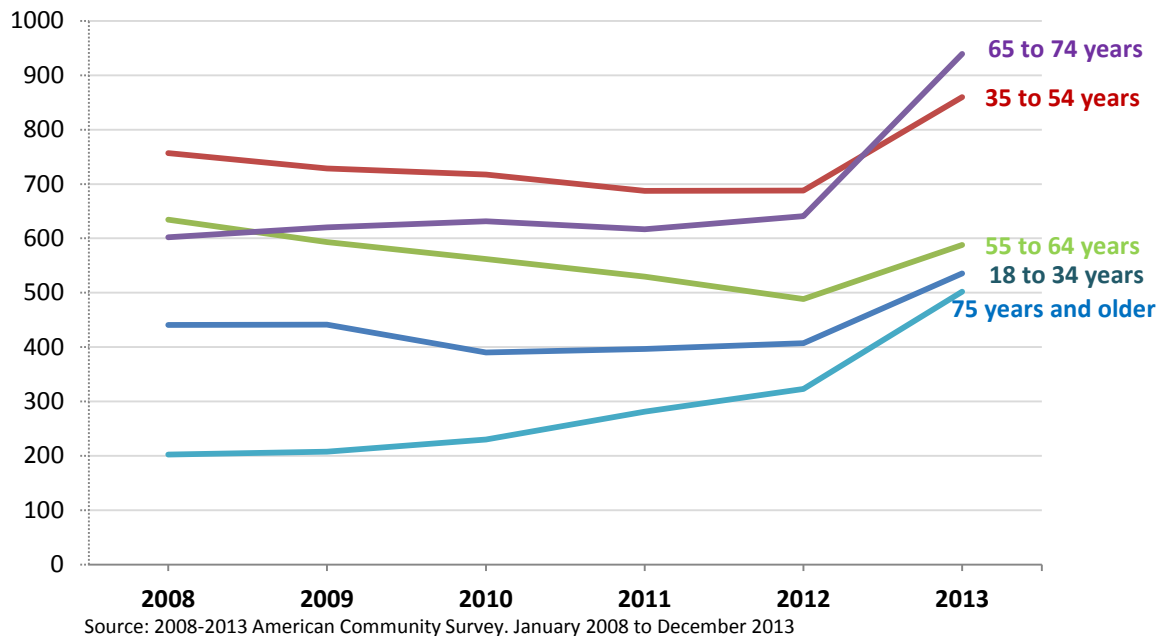
There was also a noticeable decrease in the total Gulf War I veteran population in 2013. This is a relatively young and stable veteran cohort and it is unlikely that the decrease was due to deaths. While we know many Reservists were called to active duty for the 1990 Gulf War, there was still a large number of Reservists on “active duty for training only” during this period and respondents fitting this description may still have been misclassifying themselves in the old question. Additional analysis of data from the Current Population Survey Veteran Supplements from 2009 to 2013, found that about 60 percent of Gulf War I and Gulf War II Reservists were on active duty for training only, meaning less than half should have been categorized as “veterans.”⁵

Because respondents who report themselves as “active duty for training only” are not asked the subsequent period of military service question, we had to rely on age for our Reservist group to examine whether or not our hypothesized shift was happening. Assuming an age of entry into the military between 18 to 22 years old, Reservists from the Vietnam era would have been at least 56 to 71 years of age in 2013. Reservists who only served in peacetime could have been anywhere from 41 to over 80 years of age in 2013.

Figure 4 shows that all age groups had an increase in the number of Reservists, but the biggest increases seem to be in the 55 and older categories, especially the 65 to 74 years category. This increase is in the age ranges where we think there are many people who served in the Reserves or National Guard for training only during the Vietnam and peacetime eras. However, the increase in all age categories indicates that people of all ages were reported as Reservists when they would have been in another category with the previous version of the question.

⁵ Calculations made by the author using microdata from the 2009-2013 Current Population Survey Veteran Supplements. For more information see <https://www.census.gov/prod/techdoc/cps/cpsaug13.pdf>.

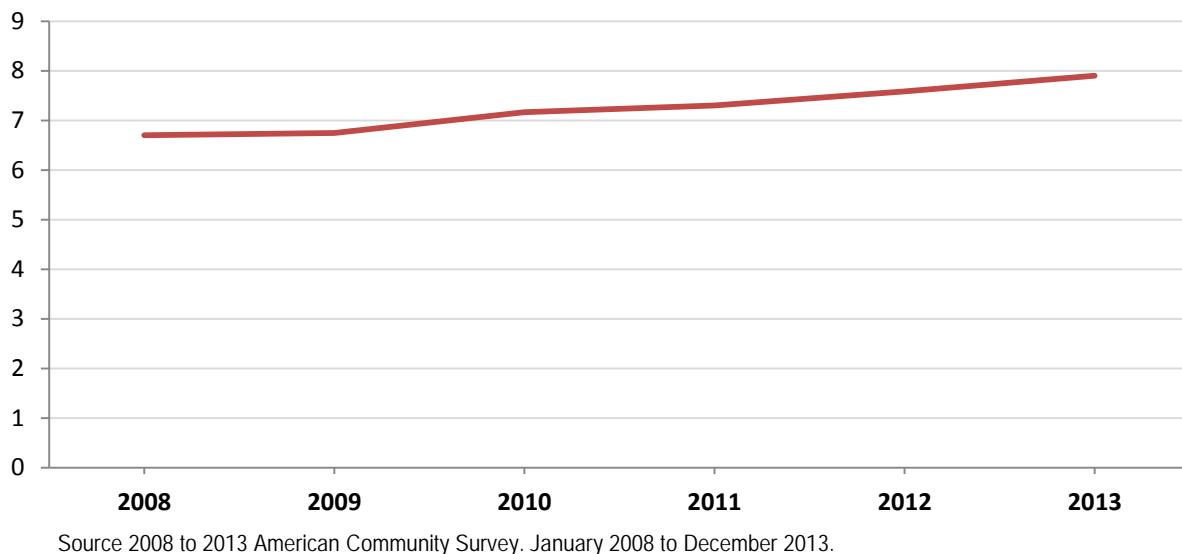
Figure 4: Age Distribution of Reservists (in thousands)



Finally, we expected the trend for female veterans, who make up less than 10 percent of the total veteran population, to be unaffected. Women served in the military in much smaller numbers prior to 1973 and would make up a tiny fraction of the Vietnam era and pre-1973 peacetime periods where we expected the changes to have occurred.

Figure 5 shows that, as expected, the change to the question wording that may have caused a shift in the veteran and Reservist population did not have an adverse impact on the trend in the percentage of the veteran population who were women.

Figure 5: Percent of Veterans Who are Female



Research Question 2: *Do the changes in the distributions of the veteran status question differ by mode?*

Table 2 shows veteran status by ACS data collection mode for 2012 and 2013.

Table 2: Veteran Status, 2012 and 2013, by Data Collection Mode

2012 Status	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	-----	426,885	426,885	16,260	261,253	305,582	1,009,980
AD in the past (Veterans)	-----	13,558,110	13,558,110	1,840,175	5,461,351	477,803	21,337,439
AD for training only	-----	1,930,056	1,930,056	202,942	358,930	55,620	2,547,548
Never served	-----	113,924,617	113,924,617	17,662,925	79,526,624	7,012,220	218,126,386
Total	-----	129,839,668	129,839,668	19,722,302	85,608,158	7,851,225	243,021,353
2013 Status	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	316,268	115,584	431,852	10,269	234,710	286,989	963,820
AD in the past (Veterans)	6,633,151	6,400,938	13,034,089	1,458,338	4,766,970	418,122	19,677,519
AD for training only	1,121,814	993,190	2,115,004	290,971	931,109	87,276	3,424,360
Never served	68,937,904	51,230,716	120,168,620	14,210,726	79,838,125	7,060,069	221,277,540
Total	77,009,137	58,740,428	135,749,565	15,970,304	85,770,914	7,852,456	245,343,239
Diff 2013-2012	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	-----	-----	4,967	-5,991*	-26,543*	-18,593*	-46,160*
AD in the past (Veterans)	-----	-----	-524,021*	-381,837*	-694,381*	-59,681*	-1,659,920*
AD for training only	-----	-----	184,948*	88,029*	572,179*	31,656*	876,812*
Never served	-----	-----	6,244,003*	-3,452,199*	311,501*	47,849*	3,151,154*
Total	-----	-----	5,909,897*	-3,751,998*	162,756*	1,231	2,321,886*
2012 Status %	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	-----	0.3	0.3	0.1	0.3	3.9	0.4
AD in the past (Veterans)	-----	10.4	10.4	9.3	6.4	6.1	8.8
AD for training only	-----	1.5	1.5	1.0	0.4	0.7	1.0
Never served	-----	87.7	87.7	89.6	92.9	89.3	89.8
2013 Status %	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	0.4	0.2	0.3	0.1	0.3	3.7	0.4
AD in the past (Veterans)	8.6	10.9	9.6	9.1	5.6	5.3	8.0
AD for training only	1.5	1.7	1.6	1.8	1.1	1.1	1.4
Never served	89.5	87.2	88.5	89.0	93.1	89.9	90.2
Diff 2013-2012 %	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	-----	-----	0.0	0.0*	0.0*	-0.2*	0.0*
AD in the past (Veterans)	-----	-----	-0.8*	-0.2*	-0.8*	-0.8*	-0.8*
AD for training only	-----	-----	0.1*	0.8*	0.7*	0.4*	0.3*
Never served	-----	-----	0.8*	-0.6*	0.2*	0.6*	0.4*

* Difference between 2012 and 2013 is statistically significantly different at the 90 percent level.

Note: The margins of error for the estimates in this table are in Appendix Table 1.

Source: 2012 and 2013 American Community Survey, January 2012 to December 2013.

Table 2 provides data for Internet and mail separately, and then those data are combined (for 2013) in the “self” response mode column. We calculated the difference between the 2012 and 2013 estimates for the combined self-response mode, for CATI, and for CAPI.

Looking at the part of Table 2 which shows the differences between the 2012 and 2013 estimates of “active duty for training only”, it is clear that there were large changes in the CATI and CAPI mode data. The number of people in CAPI reported to have served on active duty for training only in the Reserves or National Guard increased by 572,179 from 2012 to 2013, much larger than the increase in any other mode⁶, and there was a corresponding drop in the number of veterans of 694,381. The change in the number and percentage of active duty for training only in CATI, even when taking into account the drop in the number of responses from CATI, was also large. Conversely, the change in the active duty for training only category for self-response was relatively small.

There is also a large drop in the number of veterans in the self-response modes from 2012 to 2013. Some of that is likely due to the introduction of Internet, which is more likely to attract younger people who are not veterans, but part of it could be due to other factors. As we discussed in the introduction, the old question, with three “yes” categories and two “no” categories, was confusing to respondents.

The cutting back of FEFU also meant that more self-response data were allocated in 2013 than in the past. In 2012, veteran status was allocated for 5.0 percent of people collected via the mail questionnaire. In 2013, it was allocated 9.0 percent of the time for self response (both Internet and mail.) (For mail, the allocation rate was 11.1 percent and for Internet it was 7.5 percent.) We do not know the effect on the data of the increased allocation rate. If the allocation methodology is sound, which we think is true, then the effect on the overall estimates should be minimal. However, we have not done any research to confirm or refute that.

The Internet instrument does provide a key advantage over the mail questionnaire. It has automated skip patterns which eliminate inconsistent responses that occur on a paper questionnaire.

Research Question 3: *What is the effect of the question wording changes on the CATI/CAPI data for the “Active Duty for Training in the Reserves/National Guard only” category?*

Since we noticed such a large difference in CATI/CAPI for the active duty for training only category, we wanted to look at that more closely. As we showed in Figures 2a and 2b, there was one path in the instrument to report a person was on active duty for training only in 2012 but two paths in 2013:

⁶ We did not calculate a margin of error of the differences that took into account the complex sample design, but the largest the margin of error of the differences in change from 2012 to 2013 between modes could be is $\sqrt{\text{MOE}_1^2 + \text{MOE}_2^2} * \sqrt{2}$, where MOE_1 is the margin of error of the change from 2012 to 2013 for one mode and MOE_2 is the margin of error of the change from 2012 to 2013 in another mode. The differences here are larger than that, so they are statistically significant.

2012 (highlighted in yellow in Figure 2a):

- Path 1 respondents answer No to “Ever served on Active Duty” (which included an instruction that people who only served on active duty for training in Reserves or National Guard should answer ‘No’) and then Yes to “Ever been in the Reserves or National Guard.”

2013 (highlighted in yellow in Figure 2b):

- Path 1 respondents answer No to “Ever served on Active Duty” (with no additional instruction) and then Yes to “Ever been in the Reserves or National Guard.”
- Path 2 respondents answer Yes to “Ever served on Active Duty” and then Yes to “Active Duty Only for Training in the Reserves or National Guard.”

Table 3 shows how many people went down each path of the automated instrument. The data in the table are unweighted and no measures of sampling error were calculated. The goal of this table is not to make estimates weighted to the population of the United States; rather, it is to show which path respondents take through the instrument.

Table 3: Number of People Reported as “Active Duty for Training Only” by CATI/CAPI Instrument Path, 2012 and 2013

2012	CATI	CAPI
<ul style="list-style-type: none">• PATH 1: No to “Ever served on Active Duty” with instruction and then Yes to “Ever been in the Reserves or National Guard.”	4,995	3,463
2013		
<ul style="list-style-type: none">• PATH 1: No to “Ever served on Active Duty” with no instruction and then Yes to “Ever been in the Reserves or National Guard.”	1,375	2,574
<ul style="list-style-type: none">• PATH 2: Yes to “Ever served on Active Duty” with no instruction and then Yes to “Active Duty Only for Training in the Reserves or National Guard.”	4,611	5,478
<ul style="list-style-type: none">• 2013 Total	5,986	8,052

Source: 2012 and 2013 American Community Survey CATI and CAPI Data. January 2012 to December 2013

The data show that in 2013, most people classified as “active duty for training only” got there through Path 2 by answering “yes” to the “Ever served on active duty” question and then “yes” to “Active duty only for training in the Reserves or National Guard” (77 percent for CATI and 68 percent for CAPI). The instruction in the 2012 question seems to have helped some people, given the large drop in the number of people going down Path 1 from 2012 and 2013, but that drop is more than made up by people using the new path.

An advantage of the new 2013 CATI/CAPI questions is that we are more able to correctly categorize Reservists and National Guard members who only served on active duty for training as Reservists or Guardsmen and not as veterans. Using Path 2, they can report that they served on active duty with the first question but that it was for training only with the second question. The old version of the question required that the respondent understand that the VA definition of veteran did not include training only for the Reserves or National Guard.

This indicates that having the additional option allows for more accurate reporting of veteran status, a change that we feel is producing better data.

CONCLUSIONS

The Census Bureau is reporting 1.7 million fewer veterans in 2013 than in 2012. Historically, the number of veterans drops each year due to the deaths of older veterans, however this one-year change is larger than in past years.

We believe the larger than usual decrease is due to improvements in the veteran status question implemented in 2013. The drop in veterans was largely due to a sharp increase in people reported as having served on active duty for training only in the Reserves or National Guard. This group is not considered veterans by the VA. The data indicate that, before the question improvements were implemented, this group often reported having served on active duty in the past and therefore were being counted as veterans.

Although veteran status data from 2012 to 2013 can be compared, the Census Bureau recommends that it be compared with caution, taking into account the findings in this evaluation report.

NEXT STEPS

The Census Bureau will continue to monitor the data for the veteran status question in 2014 to see if the patterns from the 2013 data continue in 2014. The Census Bureau can work with Federal agencies, like the VA, and other groups to assist them in understanding the changes to the veteran status data.

REFERENCES

Clark, Sandra and Raglin, David (2006). "Evaluation Report Covering Military Service Status," 2006 American Community Survey Content Test Report P.5.a, http://www.census.gov/acs/www/Downloads/library/2007/2007_Clark_01.pdf. U.S. Census Bureau, Washington.

Clark, Sandra (2014). "Evaluation of the Effect on Item Nonresponse of Changes to the Failed Edit Follow-up Operation", 2014 American Community Survey Research and Evaluation Report Memorandum Series #ACS14-RER-26, September 2014. https://www.census.gov/acs/www/Downloads/library/2014/2014_Clark_02.pdf. U.S. Census Bureau, Washington.

Hotchkiss, Marisa (2012). "2010 ACS Content Test Evaluation Report Covering Veteran Status," http://www.census.gov/acs/www/Downloads/library/2012/2012_Hotchkiss_02.pdf. U.S. Census Bureau, Washington.

RTI International (2009). "Cognitive Testing of the American Community Survey Content Test Items," Research Triangle Park, NC.

U.S. Census Bureau (2014). "American Community Survey Design and Methodology". http://www.census.gov/acs/www/Downloads/survey_methodology/acs_design_methodology_report_2014.pdf. U.S. Census Bureau, Washington, DC.

U.S. Census Bureau (2013). "Current Population Survey, August 2013 Veterans Use File." <https://www.census.gov/prod/techdoc/cps/cpsaug13.pdf> U.S. Census Bureau, Washington, DC.

Appendix Table 1: Margins of Error of Estimates in Table 2

2012 Margins of Error	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	----	13,078	13,078	1,872	12,145	3,162	14,420
AD in the past (Veterans)	----	131,505	131,505	21,100	131,350	8,487	58,185
AD for training only	----	25,963	25,963	6,312	14,718	3,068	23,877
Never served	----	1,289,478	1,289,478	177,071	1,441,064	10,370	61,089
Total	----	1,441,247	1,441,247	192,055	1,578,437	5,287	34,448

2013 Margins of Error	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	10,865	5,608	13,759	1,522	11,278	3,607	16,121
AD in the past (Veterans)	72,834	65,940	129,338	19,265	117,994	8,654	59,518
AD for training only	17,453	16,091	28,194	7,661	29,284	5,093	29,837
Never served	788,333	603,527	1,371,840	156,727	1,507,093	10,286	52,540
Total	872,031	673,753	1,524,691	170,399	1,643,610	4,915	32,972

Difference 2013-2012	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	----	----	18,982	2,412	16,574	4,797	21,629
AD in the past (Veterans)	----	----	184,450	28,572	176,566	12,121	83,234
AD for training only	----	----	38,327	9,926	32,775	5,946	38,215
Never served	----	----	1,882,736	236,469	2,085,185	14,606	80,574
Total	----	----	2,098,065	256,751	2,278,797	7,219	47,685

2012 % Margins of Error	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	----	0.1	0.1	0.1	0.1	0.1	0.1
AD in the past (Veterans)	----	0.1	0.1	0.1	0.1	0.1	0.1
AD for training only	----	0.1	0.1	0.1	0.1	0.1	0.1
Never served	----	0.1	0.1	0.1	0.1	0.1	0.1

2013 % Margins of Error	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	0.1	0.1	0.1	0.1	0.1	0.1	0.1
AD in the past (Veterans)	0.1	0.1	0.1	0.1	0.1	0.1	0.1
AD for training only	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Never served	0.1	0.1	0.1	0.1	0.1	0.1	0.1

Difference % 2013-2012	Internet	Mail	Self	CATI	CAPI	GQ	Total
Active duty (AD) now	----	----	0.1	0.1	0.1	0.1	0.1
AD in the past (Veterans)	----	----	0.1	0.1	0.1	0.1	0.1
AD for training only	----	----	0.1	0.1	0.1	0.1	0.1
Never served	----	----	0.1	0.1	0.1	0.1	0.1

Margins of error shown here are rounded, however, all statistical testing was calculated using the unrounded values.

A margin of error for the percentages of less than 0.05 is shown as 0.1.

Source: 2012 and 2013 American Community Survey, January 2012 to December 2013.

Appendix Figure 1: Veterans Period of Service Question, 2013 ACS Paper Instrument

27 When did this person serve on active duty in the U.S. Armed Forces? Mark (X) a box for EACH period in which this person served, even if just for part of the period.

- ☐ September 2001 or later
- ☐ August 1990 to August 2001 (including Persian Gulf War)
- ☐ May 1975 to July 1990
- ☐ Vietnam era (August 1964 to April 1975)
- ☐ February 1955 to July 1964
- ☐ Korean War (July 1950 to January 1955)
- ☐ January 1947 to June 1950
- ☐ World War II (December 1941 to December 1946)
- ☐ November 1941 or earlier